



# Overview of Committee Mission and Process National Committee on Levee Safety



*Review Team Meeting 2*



12 December 2008 1/17

## Overview of Mission and Process

- Review Mission, Vision
- Results of Review Team Meeting #1
- Review Team Meeting #2 Process
  - Goals to Recommendations
- The Call to Action
- Summary Recommendation on Components of a National Program

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## Mission Statement for the National Committee on Levee Safety

- “The committee shall develop **recommendations** for a National Levee Safety Program, including a **strategic plan** for implementation of the program.”

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## Goals of the Levee Safety Act

- Feasible Programs and Procedures
- Operations and Maintenance (O&M) Policies
- Implementation of Programs with Incentives and Disincentives
- Public Education and Awareness
- Residual Risk
- Technical Policies and Procedures
- Technical Assistance Materials
- Technical Assistance Methods
- Physical Integrity Policies

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## **Vision Statement for the National Levee Safety Program**

- “An informed public and reliable levee systems working as part of an integrated approach to protect people and property from floods.”

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## **Summary of Comments Received**

- Approximately 500 comments were received from about 40 people
- Definition of a levee had 44 comments
  - Concern over canal structures
  - Concern over other embankments not designed as levees
- Hazard classification had 40 comments
  - Wide variety of concerns; most common themes were threshold numbers for risk classes and consistency with the national Dam Safety Program

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## Review Team Meeting #1: Common Themes

- Owner responsibility is critical
  - Particularly Operations and Maintenance
- Need more definitions or a glossary
- 1% flood is not a good design criterion for safety
- Limited immunity/liability needs to be considered for A/E's and others involved in levee work, but due diligence is still required

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## Review Team Meeting #1: Common Themes

- Define CFR 65.10 certification vs. safety criteria
- Define possible risk mitigation
- Make insurance risk-based
- Delegation where and when possible
  - **Requires minimum qualifications!**

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## **Review Team Meeting #1: Common Themes**

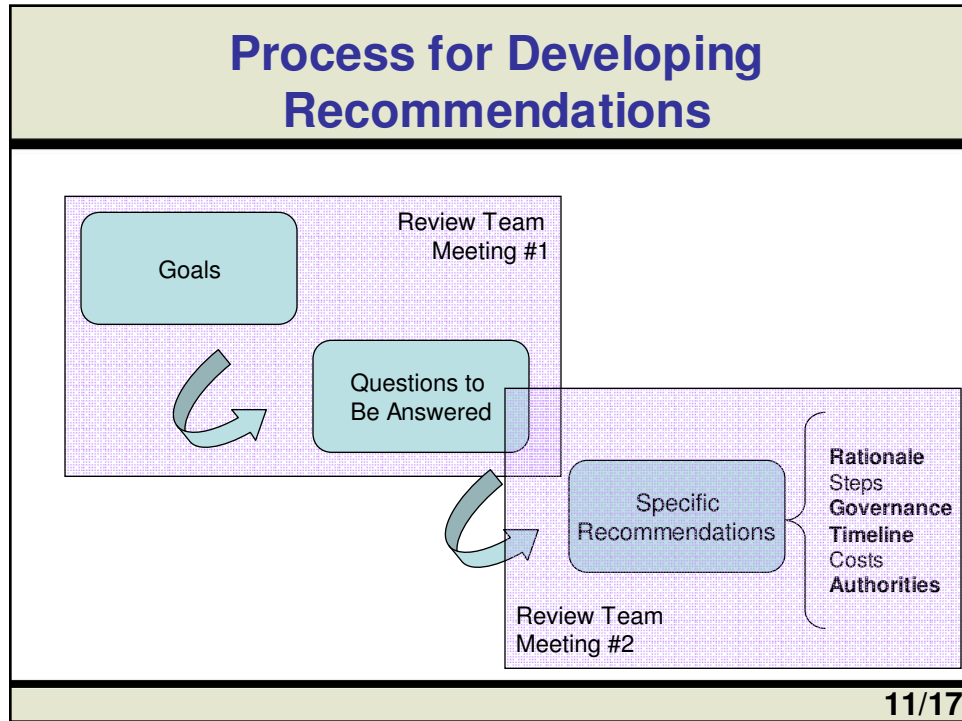
- Communication should be top-down
  - States and locals play an important role in getting information to citizens
  - All media should be used along with public meetings
  - Use existing Federal programs, especially FEMA (Floodsmart), and successful state programs
  - Consistent message needs to come from different sources, targeted to specific audiences

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## **Review Team Meeting #1: Common Themes**

- Hazard reduction/mitigation beyond levee structures should be done where there is a strong relation between the levee and the floodplain protected by the levee
- Economic incentives/disincentives are important for local cooperation and participation

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### Evolution of U.S. Levee Policy...

- Levees – a Long History (1600-1930s)
- An Early Renaissance Period (1930s-1960s)
- Unintended Consequences (1968-1986)
- Complacency Regarding Levees (1986-2005)
- A Wake-Up Call (2005)

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## The Current State of Levees

- An uncertain number, an uncertain condition
  - Our Limited Understanding and Misperceptions
- The Levee Dichotomy:
  - Integral to Communities, Critical to People and Other Infrastructure, Good Investments
  - Sure to Increase Risks, Sure to be Exceeded
- No National Standards, Approaches
- Risk: A Dynamic That We Can Keep Up With?

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## Where We Go From Here: Our Call to Action!

- Imagining Two Futures:
  - Status Quo
  - A National Levee Safety Program
- Understanding the Future Through Risk Concepts
- What We Can Do to Secure a Better Future
- What If We Don't Act?

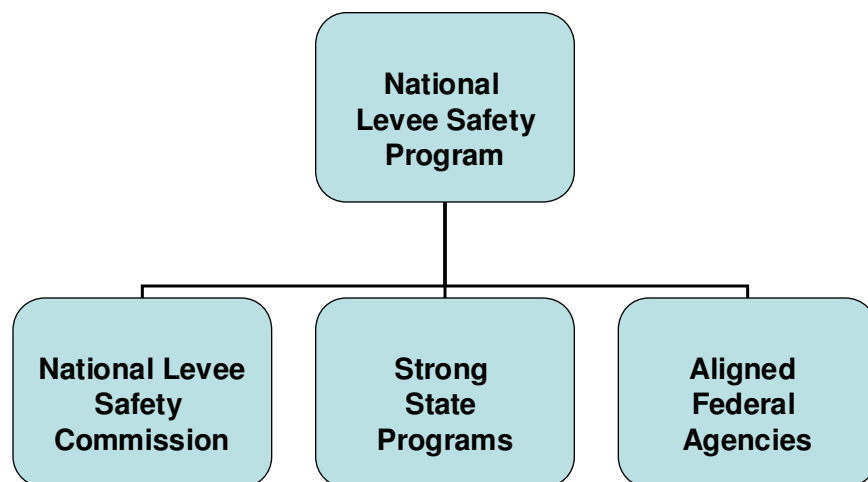
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## Let's Talk About Some Answers...

Recommendations on a  
National Levee Safety Program

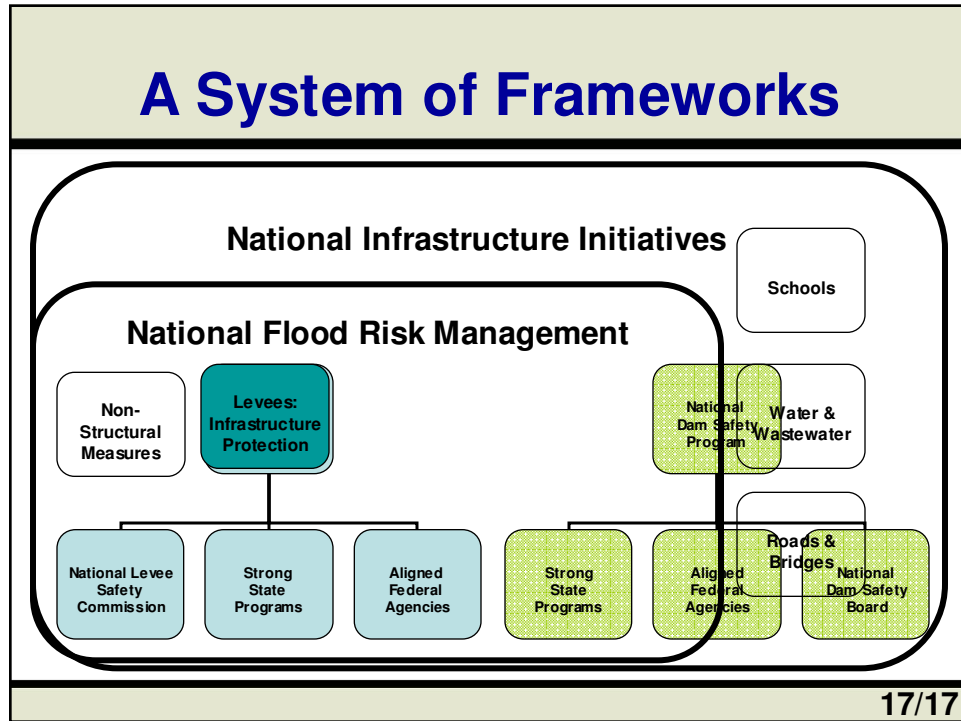
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## Major Components



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## **Functional Needs for NLSP Governance**

- Administer the National Levee Safety Program
- Achieve horizontal integration among existing agencies working on levee safety efforts
- Provide oversight of delegated programs and incentives/disincentives
- Develop standards for reliable levee systems
- Inform the public of risks through communication and education
- Environment & Safety collaboration

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## **Guiding Principles for NLSP Governance**

- Authority to fulfill its mission
- Accountability - internal & external
- Dedicated funding
- Independence
- Continuity of leadership & staff
- New cultural identity

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## **Establish a National Levee Safety Commission**


- Implementing NLSP
- Coordinating Existing Agency Levee Safety Actions/Support
  - National Levee Database
  - Aligning Federal Programs
- Managing permanent, full-time staff
  - Operational/Administrative
  - Program managers
- Identifying Focus Areas

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## **Identified Focus Areas**


- Delegated Programs
- Technical
- Communication & Education
- Environment & Safety
- Others

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## State Delegation of Programs and Aligning Federal Programs

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### Developing a Delegated State Program Guiding Principles

- Primary NLSP Implementation for non-Federal Levees is through State Programs.
- Delegation should be obtainable with minimum qualifications to perform basic functions.
- Focus on incentives for State Program development during startup period.
- After startup period, strong disincentives for non-participation.

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### **Delegated State Program Minimum Elements**

- Adopt National Standards (pp. 7 – 10)
- Inspection and Inventory Participation
- Public Education and Awareness
- Coordinate National, State, and Local Program Activities
- Emergency Action and Evacuation Plan
- Enter Property for Inspection or to Perform Emergency Action
- Hazard Mitigation Plan Reflects Levee Hazards

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### **Delegated State Program Qualifications Superior Performance**

- Permitting
- Approve Design and Construction
- Order or Perform Maintenance, Repair, Encroachment Removal, Other Actions
- Take Over Maintenance if Levee Not Properly Maintained by Owner
- Non-Structural Flood Hazard Mitigation measures

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### **Owner/Operator Responsibilities**

- Perform O&M
- Flood Fighting
- Develop and Communicate EAPs
- Local Communication and Education of Risks
- Role in Floodplain Management

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### **Possible Incentives for Delegated Programs**

- Eligibility or Priority for Federal Grant/Loan Programs (pp. 30 – 35)
- Community Rating System Credits
- Eligibility or Priority for NLSP Advisory Committees Participation
- Priority for PL 84-99 Rehabilitation Funds

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### **Possible Disincentives for Non-Participation**

- Ineligible or Lower Priority for Federal Grant/Loan Programs
- Ineligible for PL 84-99 Rehabilitation Funds
- Ineligible for Certain Federal (Corps) Flood Risk Management Projects

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### **NLSP Activities in States without Delegated Program**

- Communicate Risk
- Encourage Development of State Program
- Baseline Inspection/Inventory Maintenance
- Net Disincentives (Penalties) to State for Non-Participation

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## **Aligning Federal Programs**

- Federal Agencies Owning, Operating or Regulating Levees Adopt and Implement National Levee Safety Standards.  
(pp. 37 – 39)
- Federal Agencies Participate and Assist in NLSP Implementation.

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## **Modify FEMA Programs to Support NLSP**

- NFIP: Map and Identify FHA Behind Levees
- NFIP: Mandatory Flood Insurance in Levee-Protected Areas – Actuarial Rates
- NFIP: CRS Credit for Participation in NLSP

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## **Modify FEMA Programs to Support NLSP**

- NFIP: Map & ID FHA Behind Levees
- NFIP: Mandatory Flood Insurance in Levee-Protected Areas – Actuarial Rates
- NFIP: CRS Credit for Participation in NLSP


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## **Potential Locally Generated Funding**

- State/Local Surcharge on Insurance
- National Fee on Insurance
- Modify CRS to Pay Communities

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# Understanding the Nation's Levees: Developing a Common Set of Standards



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## Developing a Common Set of Standards

**Guiding Principle:**

**Levee Safety will greatly benefit from:**

- Common Terminology
- Common Procedures
- Improved Engineering and Technologies
- Technical Assistance
- Education and Training

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## Developing a Common Set of Standards

- **Expand and Clarify Definitions**
- **Jurisdictional Levees and Canal Structures**
- **Interim Hazard Potential Classifications**
- **National Levee Safety Standards**
- **National Tolerable Risk Guidelines**
- **Research and Development Program**
- **Technical Assistance / Training**
- ***Certified Levee Professional***

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## Developing a Common Set of Standards

- **Expand and Clarify Definitions of Levees and Structures Along Canals (pp. 14-15):**
  - **Levee (including levees protecting lowlands below sea level)**
  - **Levee Feature**
  - **Levee Segment**
  - **Levee System**
  - **Canal Structure**

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## Developing a Common Set of Standards

- ✓ Establish what structures would be under the jurisdiction of a National Levee Safety Program (pp. 15-16):

Structures should be exempt under any one of the following four conditions:

1. Levee/canal structure already regulated by the federal government and meets/exceeds the National Levee Safety Standards
2. A canal where water is retained only by natural ground
3. Highway and railroad embankments which are not functioning as part of a flood control system

5/12

## Developing a Common Set of Standards

(continued):

4. The levee or canal structure meets all of the following criteria:
  - Not part of a federal flood control project, and
  - Not an accredited levee by FEMA, and
  - Not greater than 3 feet high, and
  - Not protecting a population greater than 50 people, and
  - Not protecting an area larger than 1,000 acres

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## Developing a Common Set of Standards

### ✓ Interim Hazard Potential Classifications (pp. 13-14):

Hazard Potential Classification	Number of People Potentially Inundated	Number of People Potentially Inundated to Depths $\geq$ 3 feet*
High	$\geq 10,000^*$	$\geq 10,000^*$
Significant	$> 1,000^{**}$	$< 10,000^{**}$
Low	$< 1,000$	0

\* Also includes areas of consequence where critical life safety infrastructure is at risk (e.g. major hospitals, regional water treatment plants, and major power plants)

\*\* Also includes areas of consequence where the number of people potentially inundated is low, but there may be significant potential for large economic impacts or losses

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## Developing a Common Set of Standards

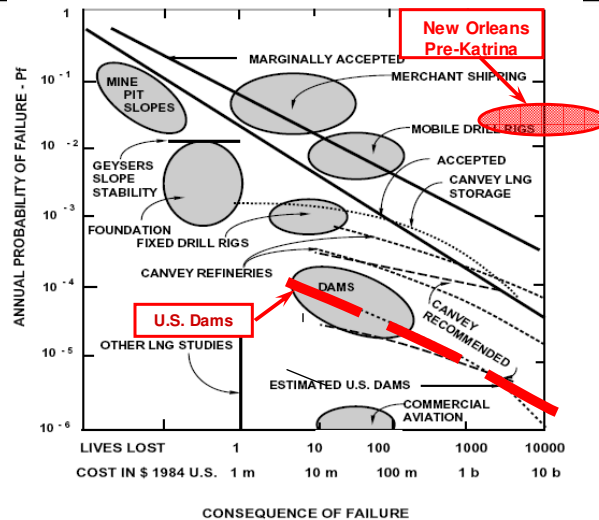
### ✓ Establish National Levee Safety Standards (pp. 27-29):

- Technical Subcommittees (~33% federal, ~33% State, ~33% Local/Private Sector) shall establish Interim and Long-Term Standards
- Interim National Levee Engineering Procedures within 1 year
- National Engineering Safety Standards within 5 years
- Independent Peer Review
- Developed and maintained at federal cost, updated periodically
- Federal agencies, and later State, local, and private sector entities, shall adopt and implement standards (engineering policies, procedures, and criteria)

8/12

## Developing a Common Set of Standards

- ✓ Establish National Tolerable Risk Guidelines  
(pp. 19-20):



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## Developing a Common Set of Standards

- ✓ Establish a Research and Development Program (pp. 20-21):
- Innovative technology for repairs/improved engineering methods
  - Technical and archival research
  - Dissemination of research products
  - Build upon existing resources and research
  - Technology and tools to enhance the security of levees at the operation level

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## Developing a Common Set of Standards

### ✓ Technical Assistance and Training Materials; sponsor conferences and training (pp. 35-36):

Contract with the Corps and USBR to develop training programs and technical assistance related to National Levee Safety Standards

- Disseminate information regarding how to establish Levee Safety Programs for both State and local levels
- Local training through direct assistance to the States
- Self-paced training
- Annual National Levee Safety Conference sponsored jointly by pertinent federal agencies and national flood management professional organizations (e.g. ASDSO, USSD, NAFSMA, ASFPM)

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## Developing a Common Set of Standards

### ✓ “*Certified Levee Professional*” (pp. 35-36):

- Establish certification program for *Levee Professionals*
- Specific classes and training materials made available
- Required use in State Levee Safety Programs, and other delegated levee safety programs


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## Communicating Risk to Governments and Affected Communities

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## Guiding Principles

- A National Levee Safety Program is a new concept.
- An informed public can provide valuable input.
- There is no consistent effective methodology to communicate levee system residual risk.
- Risk Communication Programs must be developed based on desired behavioral changes.
- A specific set of skills is required to develop effective public education and risk communication programs.
- A properly motivated public will be better prepared to take risk reduction measures.

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## **Public Education, Awareness and Risk Communication Recommendations**

- Develop a public education and awareness program designed to increase public support of State and National Levee Safety programs, and communicate residual risks associated with living in levee protected areas. (pp. 22 - 25)
- FEMA's flood hazard mapping program should be augmented to include activities to further support National Levee Safety Program activities, especially those associated with risk identification and communication in levee system impacted areas. (p. 26)

3/8

## **Increase Public Acceptance and Support of National and State Levee Safety Programs**

- **National Level**
  - Establish public knowledge baseline
  - Develop program materials and communication products
  - Develop and implement training programs
  - Develop and maintain NLSP website
  - Publicize rollout of new products
  - Sponsor public workshops and meetings
  - Promote consistency of message and terminology across agencies.

4/8

## **Increase Public Acceptance and Support of National and State Levee Safety Programs**

- **State/Local Level**
  - Promote NLSP
  - Maintain State Levee Safety Program Web Site
  - Participate in training activities
  - Sponsor public workshops and meetings
  - Encourage educational program in schools

5/8

## **Communicating Levee System Risk**

- **National Level**
  - Develop products and programs best suited for risk communication
  - Adopt uniform terminology for risk communication
  - Enhance FEMA Mapping Program
  - Develop and implement a training program
  - Develop a template for a “Citizen’s Levee Watch” program
  - Provide an annual report to Congress and the public on the state of levee infrastructure

6/8

## Communicating Levee System Risk

- **State/Local Level**
  - Adopt approved uniform terminology for risk communication
  - Communicate risks to affected public
  - Encourage the establishment of “Citizen’s Levee Watch” groups
  - Submit an Annual Report to NLSC
  - For High Hazard Potential Areas, publish an annual levee system status report


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## National Program Facilitation

Public Education and Awareness – Risk Communication


- **Main Features**
  - Establish a Communication and Education Committee
  - Leverage existing programs
  - Contract with experts

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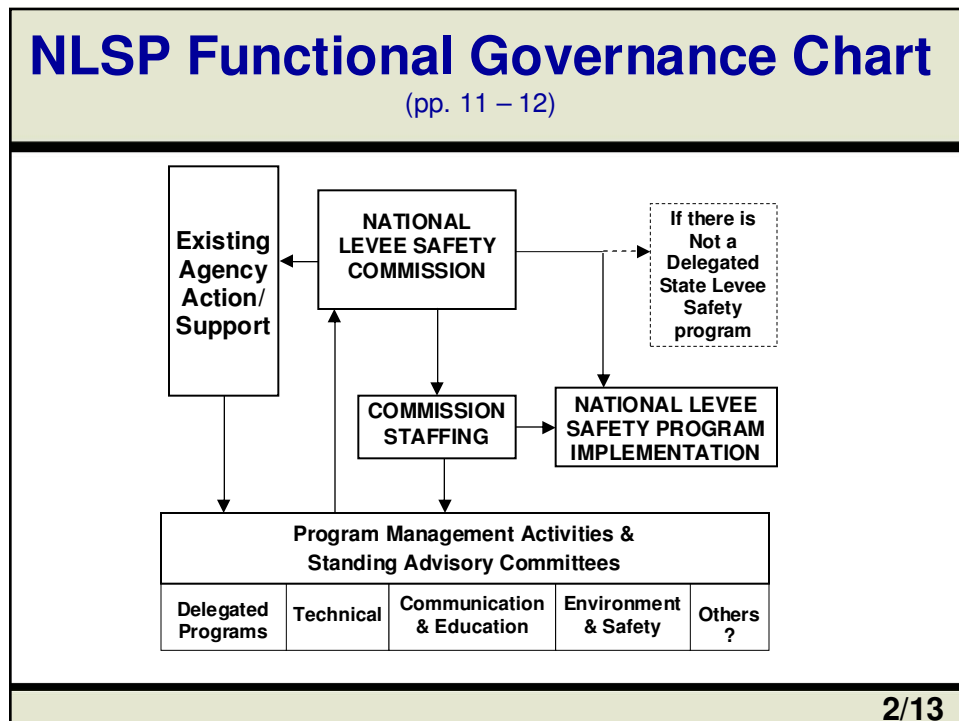


# Governance Model for National Levee Safety Program

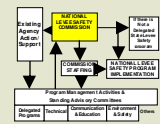
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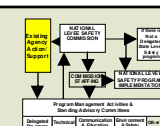
## National Levee Safety Commission



- 7 voting members (Commissioners)
  - 5 non-Federal appointed by the President
    - 3 representatives from States/Tribes
    - 1 representative from local/regional government
    - 1 representative from the private sector
  - 2 representatives from Federal Agencies, confirmed by Commission Chair
    - 1 U.S. Army Corps of Engineers
    - 1 Federal Emergency Management Agency

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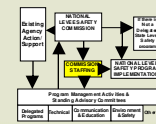
## Existing Agency Action/Support



- USACE, FEMA and Others
  - Manage the National Levee Database
  - Collect, Report and Update Inventory Data
  - Apply Incentives/Disincentives
  - Align Federal Programs

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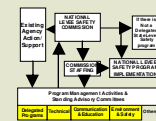
## Commission Staffing



- Permanent staff reporting to Executive Director
  - Financial Officer                      General Counsel
  - Chief Engineer                      Interagency Liaison
  - Government Affairs              Grants coordinators
  - Program Managers              Advisory Committee Support
- Supplemental staffing from Federal Agencies
  - Reach back for expertise
  - Achieve integration of levee safety efforts

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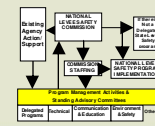
## Focus Areas



- Currently Identified
  - Delegated Programs
  - Technical
  - Communication & Education
  - Environment & Safety
  - Others?

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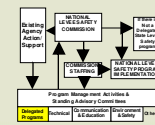
## Program Management & Advisory Committees



- Programmatic Activities
  - Administered by Program Managers
  - Supported by Commission staff
  - Supplemented by Federal Agency staff
- Standing Advisory Committees
  - Volunteers appointed by Commission Chair
  - Supported by Commission staff
  - Supplemented by Federal Agency staff

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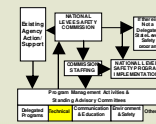
## Delegated Programs



- Develop procedures for delegation
- Delegate
- Oversee delegated programs
- Administer Incentives/disincentives
- Recommend entities for delegation
- Review delegated program compliance

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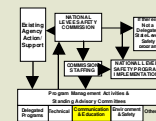
## Technical



- Develop comprehensive inventory and inspection
- Develop common set of standards
  - Definitions, hazard potential classifications, design criteria, tolerable risk guidelines, Certified Levee Professional, etc.
- Provide technical assistance/training
- Conduct research & development
- Perform forensic analysis

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## Communication & Education

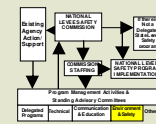


- Perform public outreach
- Provide education
- Raise risk awareness
- Promote NLSP
- Develop materials/sponsor workshops
- Publish levee safety information
- Assess public understanding

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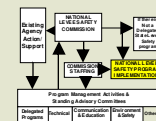
## Environment & Safety



- Address federal and state O&M permitting processes for existing projects
- Address how to better coordinate environment and safety concerns on rehab and new construction projects
- Collaborate

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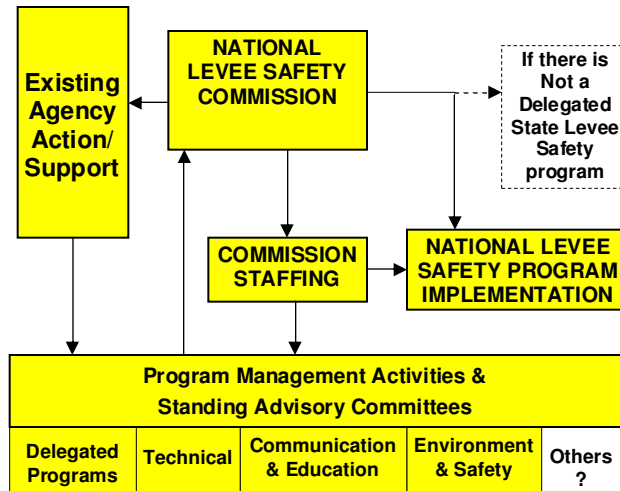
## Implementation



- Federal Agencies
  - Adopt or exceed established levee safety standards
- States/Local/Regional
  - Set up delegated program
  - Adopt or exceed established levee safety standards
  - Update inventory and inspection
  - Reporting
- Owner/Operator
  - Perform Operation & Maintenance
  - Local communication, risk education
  - Flood fighting
  - Repair, Rehabilitation, Replacement, Removal

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## NLSP Functional Governance Chart



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## Liability Issues Associated with Levees

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## Guiding Principles

- Why is liability a subject for the National Committee on Levee Safety?
- Levees are high residual risk structures
- Emerging levee liability issues
- Historical efforts to address liability

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## Guiding Principles

### Emerging Liability Issues

- PAL letters from FEMA (certification)
- Remediation projects on horizon
- Possible trending toward strict liability (*Paterno case?*)

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## Liability Issues: Background

### Parties potentially subject to liability

- Engineering service providers, both private sector and public entities
- State and local governments liable as a result of sponsoring federal flood control projects and the federal government being immune and held harmless
- Potential new liability that would be acquired by States and local agencies in implementing new Levee Safety Programs
- Others?

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## Liability Issues: Background

### Addressing Liability

- Sources of Federal Flood Liability Protection
  - Flood Control Act of 1928
  - Federal Tort Claims Act
- Federal Provisions for Others' Liability
  - Price Anderson Act (nuclear contractors)
  - CERCLA (cleanup contractors)
  - SAFETY Act (anti-terrorism)

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## **NCLS Considerations**

- Paths to broad relief require significant study and input
- Not addressing state and local government liability is likely to reduce state interest in delegation in at least some states
- Concerns regarding professional engineer liability has already reduced some firms' willingness to provide levee-related services

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## **Committee Recommendations**

- Standards of Care
  - Uniformity for engineering standards for levees and levee systems
- “Compliance Determination”
  - To replace “certification” as used by FEMA NFIP & USACE
- Add peer review to certification
- Congress to address liability through a broad range of possible further actions

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## **Liability Considerations**

- Exposure commensurate with degree of negligence
- Exposure commensurate with service, e.g., to extent levee was designed or rated to perform
- Exposure commensurate with control, e.g., no liability for decisions and activities under others' control

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## **Conclusion**

- NCLS will encourage Congress and stakeholders to work toward substantive solutions as quickly as possible.
- Review Team input will help craft the final recommendation regarding liability issues as they relate to levees.

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**National Levee Rehabilitation,  
Improvement, and Flood  
Mitigation Act**

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## Major Features of the Act

- Limited to Levees Protecting Existing Urban Areas (pp. 39 – 40)
- Cost Sharing Provision
- Recognizes Structural and Non-Structural Solutions
- Optimum Flood Risk Reduction Measures
- Does Not Replace Existing Mitigation Programs

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## Major Features of the Act

- Establishes Eligibility Criteria
- Funds Provided to Non-Federal Interest
- Portion of Non-Federal Contribution Could Be Applied Towards Flood Mitigation
- Funds Allocated Based on Maximizing Buying Down Risk

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## National Levee Safety Program Strategic Implementation of Recommendations

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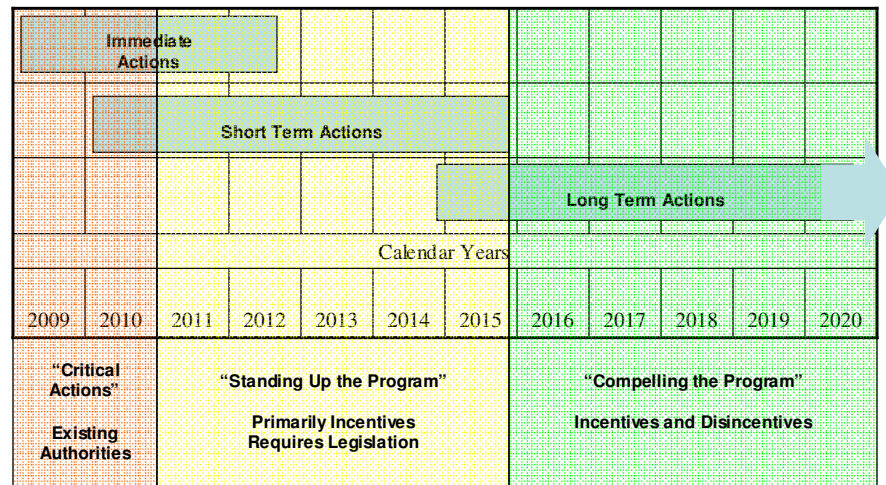


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## Principles of Strategic Implementation



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## Immediate Actions

- Congressional & Legislative Actions
  - Create National Levee Safety Program
  - Expanded Levee Inventory and Inspection
  - Address Levee Liability
- Federal Agency Actions as of 15 Jan 09
  - Build On and Coordinate USACE/FEMA-Led Communications Coordinating Council
  - Sustain and Fully Field NLSP Website
  - Coordinate Development of Interim Levee Safety Standards and R&D Program
  - Terminology Change on "Certification"

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## Standing Up the National Program

- Stand Up the National Levee Safety Commission
  - Commissioners, Staff, and Advisory Committees
  - National Standards, Including Tolerable Risk
  - Communication and Education Program
- Develop Facilitating Policies for Implementation of State and Local Programs
  - Grants and Other Incentive Programs
  - Technical Training and Assistance
- Authorize and Fund Study Element of “National Levee Rehabilitation, Improvement, and Flood Mitigation Act”
- Require Flood Insurance Behind Levees

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## Compelling State Programs

- Certification for Levee Professionals
- Authorize and Fund Risk Reduction Element of “National Levee Rehabilitation, Improvement, and Flood Mitigation Act”
- Implement Disincentives for States Without a Minimum Qualified Program
  - “Yes We Can”

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## Final Thoughts

- Not Just an Expense – It's an Investment
  - New activities, new costs
  - Can we afford to live in a disaster relief environment?
- Realism About the Recommendations
- Next Steps
  - WebEx "Knowledge Session" on 16 December
  - Report to Congress January 2009
  - Continued Refinement, Vetting, and Data Support
  - Expect Broadening Stakeholder and Momentum Building Activities on National, Regional Scale

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## Review Team #2

Thank you for your excellent support of the  
National Committee on Levee Safety!

We look forward to receiving your feedback  
by 22 Dec 08.

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